

IN THE CLAIMS:

Please amend the claims as follows:

Sub. I

73. (Twice amended) A thin film transistor comprising:
a crystalline semiconductor island over a substrate having an insulating surface;
source and drain regions in said semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region;
a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,
wherein said channel forming region has no grain boundary, and
wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,
wherein said semiconductor island includes a spin density not higher than $1 \times 10^{17} \text{ cm}^{-3}$,
wherein said crystalline semiconductor island includes
one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing a point defect in the crystalline semiconductor island.

H2

76. (Amended) A thin film transistor according to claim 73 wherein said semiconductor island includes the [a] point defect of $1 \times 10^{16} \text{ cm}^{-3}$ or more, and the one of hydrogen and halogen element for neutralizing the point defect at a concentration of 1×10^{15} to $1 \times 10^{20} \text{ cm}^{-3}$.

Sub.
I 3

87. (Amended) A semiconductor device comprising:
a crystalline semiconductor island on an insulating surface;
source and drain regions in said semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region;
a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said crystalline semiconductor island is formed in a monodomain region which contains no grain boundary.

wherein one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

Sub.
I 5

99. (Amended) A semiconductor device comprising:
a p-channel thin film transistor;
an n-channel thin film transistor;
each of said p-channel thin film transistor and said n-channel thin film transistor comprising:

a crystalline semiconductor island on an insulating surface;
source and drain regions in said semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region;
a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said crystalline semiconductor island is formed in a monodomain region which contains no grain boundary,

wherein said crystalline semiconductor island includes one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

105. (Amended) A semiconductor device comprising:

a p-channel thin film transistor;

an n-channel thin film transistor;

each of said p-channel thin film transistor and said n-channel thin film transistor comprising:

a crystalline semiconductor island on an insulating surface;

source and drain regions in said semiconductor island;

a channel forming region between said source and drain regions;

a gate insulating film adjacent to at least said channel forming region;

a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said channel forming region is formed in a monodomain region which contains no grain boundary,

wherein said crystalline semiconductor island includes

H5
(concluded)

one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

111. (Amended) A semiconductor device including an electro-optical device comprising:

Sub.
I7

an active matrix circuit portion including at least a first thin film transistor;

a peripheral driving circuit portion including at least a second thin film transistor;

said second thin film transistor comprising:

a crystalline semiconductor island on an insulating surface;

source and drain regions in said semiconductor island;

a channel forming region between said source and drain regions;

a gate insulating film adjacent to at least said channel forming region;

a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said crystalline semiconductor island is formed in a monodomain region which contains no grain boundary,

wherein said crystalline semiconductor island includes

one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

~~XXXX~~

Sub.
I8
~~XXXX~~

117. (Amended) A semiconductor device including an electro-optical device comprising:

an active matrix circuit portion including at least a first thin film transistor;

a peripheral driving circuit portion including at least a second thin film transistor;

said second thin film transistor comprising:

a crystalline semiconductor island on an insulating surface;

source and drain regions in said semiconductor island;

a channel forming region between said source and drain regions;

a gate insulating film adjacent to at least said channel forming region;

a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said channel forming region is formed in a monodomain region which contains no grain boundary cm^{-3} .

wherein said crystalline semiconductor island includes

one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

Sub.
I 9

123. (Amended) A semiconductor device comprising:

a crystalline semiconductor island on an insulating surface;

source and drain regions in said semiconductor island;

a channel forming region between said source and drain regions;

a gate insulating film adjacent to at least said channel forming region;

a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

Sub.
I 9
cond.

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

H 8
(concluded)

wherein said crystalline semiconductor island is formed in a monodomain region which contains no grain boundary,

wherein said semiconductor device has a S value of 0.03-0.3,

wherein said crystalline semiconductor island includes one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.

Sub.
I 10

H 9

129. (Amended) A semiconductor device comprising:
a crystalline semiconductor island on an insulating surface;
source and drain regions in said semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region;
a gate electrode adjacent to said channel forming region having said gate insulating film therebetween,

wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$,

wherein said channel forming region is formed in a monodomain region which contains no grain boundary,

wherein said semiconductor device has a S value of 0.03-0.3,

wherein said crystalline semiconductor island includes one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ for neutralizing point defects in the crystalline semiconductor island.